unmistakability doctrine at length, supports their regulatory contract contention.[21] A closer examination of Winstar, however, indicates that the decision is in fact reaffirms the doctrine in its traditional form. At the height of the savings and loan crisis, federal regulators promised certain healthy S&Ls that they would receive a favorable accounting treatment if they acquired failing S&Ls. Later, as part of a comprehensive effort to reform the industry, Congress passed legislation that proscribed the use of this accounting treatment. At issue in the case was whether in these circumstances the federal government could be sued for breach of contract in the Claims Court by the acquiring S&Ls.

Four Justices joined Justice Souter's plurality opinion, which would have recognized an exception to the unmistakability doctrine for government "indemnification" agreements holding entities harmless in the event of future changes in regulation.[22] However, a majority of five Justices rejected such an exception. Justice Scalia's concurring opinion, joined by two other Justices, saw no need to create the exception, because in his view the contracts in question unmistakably promised the acquiring S&Ls they would receive favorable accounting treatment.[23] Chief Justice Rehnquist, joined by one other Justice, also rejected the exception, but found that the doctrine was not satisfied.[24] Thus, by a vote of 5-4, Winstar reaffirms the unmistakability doctrine, and rejects

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[21] Affidavit of J. Gregory Sidak and Daniel F. Spulber, FCC CC Docket No. 96-262, January 29, 1997 at 37-40.

[22] Id. at 2453-61.

[23] Id. at 2477.

[24] Id. at 2480.

Justice Souter's proposed exception. The Court disagreed about the application of the doctrine in the specific context presented, but did not call into question the doctrine's continued validity.[25]

In applying the unmistakability doctrine to the regulatory contract claims advanced by Sidak and Spulber, it is useful to distinguish among three possible versions of the Sidak and Spulber regulatory compact argument: (1) In return for agreeing to shoulder onerous common carrier obligations such as the duty to provide universal service within a given area, regulators could be said to have promised that the LECs will have the right to operate as a monopoly within the service area. (2) In return for accepting a ceiling on what they can charge consumers, i.e., maximum rate regulation, regulators could be said to have promised LECs that they will be allowed to recover fully the historical cost of specific investments made in the past, at least when these investments were reviewed and approved as prudent by regulators when they were made. (3) Again in return for accepting maximum rate regulation, regulators could be said to have promised the LECs that they will be given an opportunity to earn a competitive return on their investment over its expected useful life. Such a promise would of course be substantially identical to the protection afforded utilities under the Supreme Court's confiscation decisions.

To show in "unmistakable" terms that any of these promises was made, it will almost certainly be necessary to point to specific language in a corporate charter, franchise agreement, or public utility statute, or a longstanding judicial doctrine, that expressly reflects these

[25] Even under Justice Souter's exception for indemnification contracts, the only promise that would be enforceable against the government would be the promise to hold utilities harmless against the effects of future regulation, i.e., to guarantee them just compensation for the public use of their investment over its expected life.

understandings.[26] Implied understandings based on a long course of dealing, or action taken in reliance on apparently settled practices, might plausibly be thought to give rise to a contract between the government and the LECs. But it will be much harder to show that these practices reflect an unmistakable contractual agreement.

The LECs will have an uphill struggle to show that they are the beneficiaries of a regulatory contract that includes an unmistakable promise by the government that they are entitled to maintain monopoly service territories. The most logical place to look for such language is in franchise agreements permitting a LEC to operate in specific communities or areas. But most such franchise agreements do no more than permit the LEC to use public streets, alleys, and other public rights of way for purposes of constructing and maintaining local networks to serve the public.[27] This type of permissive authorization is obviously a far cry from the grant of monopoly privileges, and is unlikely to be construed as carrying a necessary implication of exclusivity.

Whether utility franchise agreements confer monopoly rights was a much litigated issue in the late 19th and early 20th centuries. Numerous Supreme Court decisions from the era apply the unmistakability doctrine to deny a claim that monopoly service rights should be found by implication on the basis of the franchise agreements that do not expressly address the issue. As the

[26] See National Railroad Passenger Corp. v. Atchison T. & S.F. Ry. Co., 470 U.S. 451, 466 (1985) (presumption that general language of statutes "is not intended to create private contractual or vested rights but merely declares a policy to be pursued until the legislature shall ordain otherwise").

[27] See George L. Priest, The Origins of Utility Regulation and the 'Theories of Regulation' Debate, 36 J. Law & Econ. 289, 303 (1993).

Court stated in one such case: "an exclusive right to enjoy a certain franchise is never presumed, and unless the charter contain words of exclusion, it is no impairment of the grant to permit another to do the same thing, although the value of the franchise to the first grantee may be wholly destroyed."[28] Even where state law has included general provisions reflecting a policy limiting each service area to a single utility, the Court has refused to recognize any "vested right" in the maintenance of such a policy if the State subsequently decides to endorse a policy of competition.[29] And even if there is specific language of exclusivity in the franchise agreement or the public utility act, the Court has usually permitted the introduction of competition if the franchise agreement or other source of authority also includes language reserving the right "to repeal, alter, or amend" the grant.[30] But even if such a promise existed in unmistakable terms, there would be no reason to infer an additional promise to allow the utility to charge monopoly rates. Thus, so long as the utility had an opportunity to earn a competitive return after the advent of competition there would in any event be no damages associated with a breach of the monopoly promise.

Claimed promise two -- that LECs are entitled to recover fully all investments (or at least

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[28] Pearsall v. Great Northern Ry., 161 U.S. 646, 664 (1896). For other decisions reaching this conclusion with respect to a variety of local public utilities, see, e.g., Piedmont Power & Light Co. v. Town of Graham, 253 U.S. 187, 195 (1920); City of Mitchell v. Dakota Central Telephone Co., 246 U.S. 396 (1918); Ramapo Water Co. v. City of New York, 236 U.S. 579 (1915); Joplin v. Southeast Missouri Light Co., 191 U.S. 150, 156 (1903); Capital City Light & Fuel Co. v. Tallahassee, 186 U.S. 401 (1902); Skaneateles Water Works v. Skaneateles, 184 U.S. 354, 363 (1902); Bienville Water Supply Co. v. Mobile, 175 U.S. 109 (1899); Hamilton Gas Light & Coke Co. v. Hamilton City, 146 U.S. 258 (1892).

[29] See Tennessee Elec. Power Co. v. TVA, 306 U.S. 118, 139 (1939).

[30] See, e.g., Ft. Smith Light & Traction Co. v. Paving district, 274 U.S. 387, 390 (1927); Sears v. Akron, 246 U.S. 242, 249 (1918); Ramapo Water Co. v. New York, 236 U.S. 579 (1915); Calder v. Michigan, 218 U.S. 591 (1910); Hamilton Gas Light & Coke Co. v. Hamilton City, 146 U.S. 258, 270 (1892); Greenwood v. Freight Co., 105 U.S. 13 (1881).

all investments found to be prudent) at their historical costs -- is also one that we believe cannot be established in most cases in unmistakable language. One serious impediment here is the backdrop of the confiscation case law, which as we have discussed has insisted for over 50 years that regulators are "not bound to the use of any single formula or combination of formulae in determining rates."[31] During this period, several courts have specifically held that public utilities including LECs are not guaranteed the right to recover the full historical costs of their investments.[32] Nor do the statutes such as the Federal Communications Act that govern rate proceedings provide any textual basis for establishing an unmistakable right to recover all prudent historical costs. These statutes speak in much broader generalities about the right to "just and reasonable" rates or "a fair rate of return."

It is also pertinent to note that the stated rationale of these statutes is to eliminate earnings that represent either a monopoly profit or excessive costs incurred because of inefficiency. Admittedly, these statutes have not consistently realized these goals. But Sidak and Spulber's construction of the regulatory contract as protecting incumbent utilities' entitlement to any and all foregone earnings of which they are deprived by the advent of competition -- even if those earnings reflect monopoly profits or inefficiencies -- is incompatible with the stated purpose (if not the practical effect) of the regulatory regimes.[33]

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[31] Hope Natural Gas, 320 U.S. at 602-03.

[32] See, e.g., Market Street Ry. Co. v. Railroad Comm'n of Cal., 324 U.S. 548, 567 (1945); Illinois Bell Tel. Co. v. FCC, 988 F.2d 1254, 1263 (D.C. Cir. 1993).

[33] See Stephen F. Williams, Deregulatory Takings and Breach of the Regulatory Contract: A Comment, 71 N.Y.U. L. Rev. 1000 (1996); Oliver E. Williamson, Deregulatory Takings and Breach of the Regulatory

Perhaps even more damaging from a historical cost-regulatory contract viewpoint is the fact that the FCC and most state commissions have turned away in recent years from traditional prudent investment or rate of return methods for setting maximum rates, and instead have adopted incentive regulations such as price caps.[34] These new methods of regulation do not entail any review or approval of the historical costs of specific investments. Sidak and Spulber argue that this development does not negate the regulatory contract.[35] But the emergence of widespread incentive regulation is surely incompatible with the assertion that the LECs and their investors have acted in reliance on the understanding that they would be allowed to recover the full historical costs of all prudent investments.

With respect to promise three -- that LECs will be given an opportunity to earn a reasonable return on their total investment over its expected useful life -- there is no need to search for an unmistakable promise, because if one exists, it merely restates the confiscation protection provided by Hope and Duquesne. Both constitutional sources such as Hope and Duquesne and statutory mandates which require that utilities be allowed to charge "just and reasonable" or earn "a fair rate of return" have been consistently interpreted to mean that investors can expect an opportunity to earn a normal competitive return on their overall investment. In effect, investors have been promised that

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Contract: Some Precautions, 71 N.Y.U. L. Rev. 1007 (1996).

[34] The FCC moved to price cap regulation for the interstate services of Bell and GTE LECs in 1990. See National Rural Telecom Assn v. FCC, 988 F.2d 174 (D.C. Cir. 1993). Regulatory reform at the state level began in the late 1980s, with different combinations of deregulation, price caps, and revenue sharing being adopted in different states, in each case to provide greater incentives for innovation and cost savings that was thought to be supplied by traditional rate of return regulation. See Robert Crandall and Jerry Ellig, Economic Deregulation and Customer Choice: Lessons for the Electric Industry 21, Center for Market Processes (Fairfax, VA: January 1997).

[35] Sidak and Spulber at 926-28.

they will be allowed a reasonable opportunity -- i.e., one that fairly balances investor and consumer interests -- to earn over the lifetime of their investment as much as they would earn on average from investing in a competitive, unregulated industry of equivalent risk. And this means they have been promised recoupment of the replacement costs of their investments along with a current competitive rate of return. A competitive return, however, already incorporates full compensation for the risk of possible innovation that could drive replacement cost below the value of historical cost. Thus, the promise of a competitive return does not entail a promise of full recovery of historical costs.

If the regulatory contract includes no more than promise three, then this means that the scope of judicial protection under the regulatory contract is at most coextensive with that provided by the confiscation cases. Indeed, promise three simply restates, in the language of contract, the protections that the Supreme Court has recognized in the confiscation cases as deriving from the Takings Clause. As we have seen, the confiscation cases provide no basis for concluding that regulators must permit LECs to recover all their historical costs, or that forward-looking prices are unconstitutional on their face. That being the case, the regulatory contract provides no basis for reaching these conclusions either.

B. THE APPROPRIATE REMEDY FOR ANY CONSTITUTIONAL VIOLATION

Perhaps more important than any question about the scope of protection afforded by the Takings Clause and the regulatory contract are questions about the form and timing of the remedies for violation of these rights. Here there are two different lines of authority. On the one hand, some of the confiscation cases (but not all) could be read to suggest that a public utility company is entitled to a determination of whether a rate order is confiscatory before the rates are put into effect.[36] These decisions may assume in effect that the "just compensation" required by the Takings Clause must be supplied by the revenues generated by the order itself. Under this approach, if a public utility company persuades a court that the order will deprive it of constitutionally adequate revenues, the court can set aside the order and require the public utility commission to enter a new order.

On the other hand, there is a broad line of authority asserting that "[e]quitable relief is not available to enjoin an alleged taking of private property for a public use, duly authorized by law, when a suit for compensation can be brought against the sovereign subsequent to the taking."[37] According to this authority, "the Fifth Amendment does not require that just compensation be paid in advance of or even contemporaneously with the taking. All that is required is the existence of a reasonable, certain and adequate provision for obtaining compensation at the time of the taking."[38] Thus, if some mechanism exists for securing monetary relief after the fact -- for example through a suit for damages against the government under the Tucker Act -- courts will not enjoin a regulatory action alleged to result in a taking. Instead, they will dismiss such an action as premature

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[36] See, e.g., Duquesne Light Co. v. Barash, 488 U.S. 299 (1989); Jersey Central Power & Light Co. v. FERC, 810 F.2d 1168 (D.C. Cir. 1987). But see FPC v. Texaco, Inc., 417 U.S. 380, 392 (1974) (where impact of regulatory scheme cannot be determined until it has been applied in individual cases over a period of time, "broadside assertion" that regulation will be confiscatory was premature).

[37] Ruckelshaus v. Monsanto Co., 467 U.S. 986, 1016 (1984); see Bell Atlantic Telephone Cos v. FCC, 24 F3d 1441, 1444 n.1 (D.C. Cir. 1994).

[38] Preseault v. ICC, 494 U.S. 1, 11 (1990) (citations omitted) (internal quotations omitted).

and remit the complaining party to its ex post remedy for damages.[39]

It is clear that the second line of authority reflects the general rule about remedies for violation of the Takings Clause, and the first line is at best an unarticulated exception to that rule. This follows from the modern Court's understanding of the nature of the right established by the Fifth Amendment. As the Court has explained, the Fifth Amendment "does not prohibit the taking of private property, but instead places a condition on the exercise of that power."[40] That condition does not "limit the governmental interference with property rights per se;" rather, it imposes a requirement of "compensation in the event of otherwise proper interference amounting to a taking."[41] It follows directly from this conception of the right that if the government regulates private property but leaves open avenues whereby the owner of the property may obtain just compensation for any taking that may be caused by the regulation, then the Takings Clause has not been violated.

Because the Court has never explained the apparent exception to this understanding reflected in some of the confiscation cases, the underlying rationale for this exception remains a matter of speculation. There are number of possibilities. We will confine the discussion in the text[42] to two

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[39] This conclusion is supported both by the so-called Tucker Act cases involving takings by the federal government, see, e.g., Preseault, supra, 494 U.S. at 17; Regional Rail Reorganization Act Cases, 419 U.S. 102, 124-25 (1974), and by ripeness cases involving takings by state and local governments. See, e.g., Williamson County Planning Comm'n v. Hamilton Bank of Johnson City, 473 U.S. 172, 194 (1985).

[40] First English Evangelical Lutheran Church of Glendale v. County of Los Angeles, 482 U.S. 304, 314, 315 (1987).

[41] Id.

[42] Two other possibilities will be briefly noted. First, the confiscation cases typically involve orders requiring rate reductions, and under the statutory schemes governing these orders utilities would have no way to

that appear to be especially germane to the question of the proper remedy for any constitutional violation presented by the local competition provisions of the Telecommunications Act.

On the one hand, the confiscation cases may rest on the assumption that all issues pertaining to whether there has been an uncompensated taking have been finally decided by the responsible administrative tribunal.[43] Further, they may reflect the assumption that only one avenue has been established by the government for securing just compensation -- the determination of maximum rate

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recoup lost revenues if the order were allowed to go into effect while the confiscation challenge was adjudicated. See Burlington Northern Inc. v. United States, 459 U.S. 131, 141-42 (1982); Arizona Grocery Co. v. Atchison, T. & S.F. Ry. Co., 284 U.S. 370, 387-88 (1932).

This does not seem to apply to the introduction of local competition under the Telecommunications Act, however, because the LECs do have means of being made whole. First, the FCC has specifically ruled that it will entertain petitions to adjust prices for particular LECs if they can show that they will have confiscatory effects. First Report and Order ¶ 739. Second, as discussed below, LECs that can show that the FCCs and the PUCs have implemented the Telecommunications Act in such a way as to create a taking or breach of contract should be able to sue the United States for damages under the Tucker Act.

Second, the cases implicitly holding that confiscatory rate orders can be enjoined may rest on an unstated concern that such orders can visit irreparable harm on the public. If a rate order were truly confiscatory, then it would at the very least jeopardize the utility's ability to raise needed capital, and could even drive it into bankruptcy. In a world where all utilities are assumed to be natural monopolies, a capital-starved utility or a utility undergoing reorganization could deprive the public of adequate services.

This explanation, too, has no relevance to the pricing controversies under the Telecommunications Act. Those controversies arise out of a statutory scheme designed to create competition among utilities. In this new world of local exchange service competition, if prices for network elements and access are set at confiscatory levels, then some LECs may suffer -- indeed, some may even go out of business. But if this happens, others will immediately step in to take their place. Any constitutional infirmities in pricing levels can be rectified by an action for damages after the fact without jeopardizing public services.

[43]The earliest confiscation cases suggest that the only issue before the courts was one of the adequacy of compensation. Those decisions were based on an analogy to eminent domain. See, e.g., Smyth v. Ames, 169 U.S. 466, 546 (1898); Reagan v. Farmers & Trust Co., 154 U.S. 362, 410 (1894); The Railroad Comm'n Cases, 116 U.S. 307, 331 (1886). See generally John N. Drobak, From Turnpike to Nuclear Power: The Constitutional Limits on Utility Rate Regulation, 65 B.U. L. Rev. 65, 70-81 (1985). The "taking" occurred when a utility like a railroad was subjected to common carrier obligations. Its property in effect had been seized by the state and dedicated to public use. The issue before the court was therefore whether the rates that the railroad was permitted to charge satisfied the "just compensation" requirement that would prevail in any physical takings case.

levels by the administrative tribunal. On these assumptions, the response of a court that concludes a rate order constitutes an uncompensated taking arguably should be to set it aside (enjoin it), and direct the administrative tribunal to come up with a constitutional order. This explanation gains support from the fact that when the Court has been confronted with price setting or rate setting schemes that involve two stages -- first the imposition of general or area rate orders, followed by some procedure for seeking individual waivers or variances from these orders -- it has followed the general rule, and has refused to permit the scheme to be enjoined at the first stage.[44]

Assuming this explanation adequately accounts for the apparent exception reflected in the confiscation cases, it has little application to the controversy over the pricing of unbundled network elements and carrier-to-carrier access prices under the Telecommunications Act. As we discuss in the next part of this article, it simply cannot be said that the question whether the Telecommunications Act works a taking or breach of contract has been settled with any finality. On the contrary, the pricing controversies under the Telecommunications Act involve multiple and significant uncertainties about whether there is any taking or breach of contract at all. In this sense, the pricing issues under the Telecommunications Act resemble much more closely the two-stage rate cases than the one-stage cases. Moreover, it cannot be said that the carrier-to-carrier prices established under the Telecommunications Act are the only available mechanism for securing just compensation in the event of a taking or breach of contract. As we also discuss in the next Part, several different sources of potential compensation remain untapped. And if all else fails, a LEC

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[44] See FPC v. Texaco, Inc., 417 U.S. 380 (1974); Permian Basin Area Rate Cases, 390 U.S. 747 (1968); Bowles v. Willingham, 321 U.S. 503 (1944); Yakus v. United States, 321 U.S. 414 (1944).

can bring an action against the United States for money damages under the Tucker Act. [45]

Alternatively, the confiscation cases which sanction injunctions of rate orders may rest on the assumption that little more is at stake in these controversies than a private dispute between two economic interests over the division of economic rents. A dispute between a monopoly railroad and a group of politically influential shippers would fit this conception. If all that is at stake is shifting the private distribution of income from one private interest to another, then perhaps it is not appropriate to postpone the takings inquiry. Indeed, if the consequence of postponement is to externalize the cost of the redistribution to the taxpayers through a subsequent suit against the government for money damages, then the incentives to seek these private redistributions may be accentuated. This interpretation gains some support from the fact that most of the cases that have articulated the general rule (no injunction) have not involved transfers from A to B, but rather have been challenges brought against some sort of general land use planning or environmental regulation designed to provide external benefits or public goods to a wide cross section of society.[46]

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[45] A Tucker Act remedy remains available as long as the governmental action said to create a taking has been authorized "expressly or by necessary implication" by an Act of Congress. See Regional Rail Reorg. Act Cases, 419 U.S. 102, 127 n. 16 (1974). The Claims Court has construed this to include any governmental action that flows from "the good faith implementation of a Congressional Act." Southern Cal. Fin. Corp. v. United States, 225 Ct.Cl. 104, 634 F.2d 521, 525 (Ct.Cl. 1980) (internal quotation omitted). There can be no question that the adoption of forward-looking pricing for network elements and access charges reflects a "good faith implementation" of the Telecommunications Act. Indeed, as the FCC has found, some such standard is essential to the successful implementation of the Act. Thus, it would appear that a Tucker Act remedy exists for any taking or breach of contract created by the pricing decisions of the FCC and the PUCs.

[46] See, e.g., Preseault v. ICC, 494 U.S. 1 (1990); MacDonald, Sommer & Frates v. Yolo County, 477 U.S. 340 (1986); Williamson County Planning Comm'n v. Hamilton Bank of Johnson City, 473 U.S. 172 (1985); Ruckelshaus v. Monsanto Co., 467 U.S. 986 (1984).

Again, whatever the validity of the private redistribution interpretation of the confiscation cases that authorize injunctions of rate orders, this is not a complete or accurate characterization of the access pricing disputes under the Telecommunications Act. Whether the FCC and the state commissions adopt forward-looking or backward-looking pricing methods will of course have some short-run effect on the distribution of income between investors in different industries. But as we explain in Part III, most economists, joined by the FCC and most state PUCs, believe that much more is at stake. Adoption of forward-looking prices for unbundled network elements and access is regarded as critical for achievement of the goals of the Telecommunications Act. In effect, such pricing is considered a necessary step toward realization of the public purposes embodied in an Act of Congress (the "public use" if it turns out there is a taking). This suggests that the general rule (no injunction) is the correct one to apply here, in order to ensure that the public policy adopted by Congress is not frustrated. If realization of that policy entails a taking, then the proper remedy is to enforce the policy, including any steps deemed necessary by those charged with its administration, and to require those that suffer any taking of property as a consequence of the policy to seek appropriate compensation after the fact.

If we are correct that any taking or breach of contract caused by the Telecommunications Act should be remedied by <u>ex post</u> compensation, then this also has important implications for other constitutional claims of Sidak and Spulber and the LECs. Sidak and Spulber have argued that the introduction of local competition into the local telephone industry may also be challenged as a regulatory taking under the three-part Penn Central test,[47] and may be characterized as a permanent physical occupation of LEC property under the Loretto decision.[48] Some incumbent LECs have advanced similar arguments, as well as arguing (with greater plausibility) that the physical collocation requirements of the Telecommunications Act represent a permanent physical occupation of their property.[49] Without addressing the merits of these arguments, it should be enough to note that as long as the Telecommunications Act includes mechanisms which in the aggregate can provide just compensation for any violations found to have merit, these claims, too, should provide no basis to halt the implementation of the Act in the manner deemed most appropriate by regulators to achieve its purposes.

[47] Penn Central Transp. Co. v. New York City, 438 U.S. 104, 124 (1978); see Sidak and Spulber at 941-946.

[48] Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419 (1982); see Sidak and Spulber at 946-953.

[49] See Telecommunications Act of 1996 § 101(a), adding 47 U.S.C. § 251(c)(6) (expressly authorizing physical collocation, and thereby overruling Bell Atlantic Telephone Cos. v. FCC, 24 F.3d 1441 (D.C. Cir. 1994)).

II. Economics of the Issues

A. On The Probable Magnitude of Stranded Investment: Pertinent Differences in the Attributes of Local Telecommunications and Electricity

We have seen that two of the considerations that may be legally significant in determining the remedies for a taking or breach of regulatory contract are (1) the finality with which the responsible administrators have resolved all elements that must be determined in order to conclude there has been an uncompensated taking or breach of contract, and (2) whether other avenues of relief exist to obtain compensation. Whether or not these factors are legally significant, they certainly make eminent common sense. Both have an important bearing on the probable magnitude of stranded investment, and regulators and courts should be anxious to know something about just how much stranded investment we are talking about.

Unfortunately, it is impossible at this stage in the execution of the Telecommunications Act to predict with any precision exactly what the magnitude of stranded investment, if any, will be. This amount if will depend on a number of influences: (1) whether and how quickly other firms will construct new facilities to compete against incumbent LECs; (2) how many consumers will switch to the new facilities of the competing LECs; and (3) how much revenue will be lost by the incumbent LECs after netting out lost market share against overall market growth as a result of this stranded plant.

Rather than venture any guesses about these variables, we will proceed in a more qualitative and comparative fashion, offering some observations about the differences between local telephony and electricity in terms of the probable magnitude of stranded plant, if any, that will result from the introduction of competition.

The magnitude of stranded costs created by the introduction of competition into markets previously served by regulated monopolies will differ significantly from one industry to the next and from one competitive access scheme to the next. The underlying principles are the same, but the pertinent variables may yield very different results, depending on the nature of the technology in the industry and the specific provisions of the competitive access scheme. It is certainly plausible that the introduction of competition into the retail electric power industry through a regime of unrestricted retail wheeling of power can give rise to enormous stranded plant problems for utilities that gambled and lost on high-cost sources of power such as nuclear plants.[50] On the other hand, we doubt very much that the regime of local telephone competition established by the Telecommunications Act will give rise to similar concerns about stranded investment, for a variety of reasons.

The first derives from the technological attributes of the telecommunications industry. Unlike the electric power industry, the incumbent suppliers of the bulk of local telecommunications services do not constitute a set of "high-cost" producers burdened by critical decisions taken in the past committing them to technology that proved afterwards to be far more costly than there had been any reason to expect. Telephone technology is changing rapidly, particularly as analog equipment

[50] See Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, Notice of Proposed Rulemaking, Federal Energy Regulatory Commission, Dkt. No. RM-94-7-000, 59 Fed. Reg. 35,274, 35,278 (June 29 1994) (electric utilities could face $200 billion or more in stranded costs due to wholesale and retail wheeling).

is extensively replaced by digital equipment. Equipment scheduled to be replaced or abandoned because of technological change for this reason clearly cannot possibly be stranded.

In addition, the new technology is concentrated in switching, transmission lines, and data processing, and here there is little difference among the different carriers.[51] Thus, there is little opportunity for entrants into local activity to make immediate and dramatic inroads on incumbent monopolists through facilities-based competition, i.e., by building a duplicate system using alternative (cheaper) technology. The absence of immediate opportunities for exploitation of alternative technology means, in turn, that access to local markets in the early years under the Telecommunications Act will primarily take place through the leasing of considerable portions of the incumbent LEC's physical plant.[52]

The decision to lease rather than build has extremely significant consequences in terms of stranded plant. Simply put, if the portion of the local system that is leased is priced properly, then there will be no stranded investment problem. The LEC will either use its local plant for its own purposes, or will lease its facilities to competing carriers, presumably at fully compensatory prices. All portions of the physical plant are likely to be deployed fully and will earn a competitive return, and there will be no violation of the Takings Clause or the regulatory compact.

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[51] See Crandall and Ellig, supra n. 35 at 22.

[52] The Telecommunications Act and the FCC's implementing regulations expressly permit competing exchange carriers to purchase unbundled network elements from incumbents, or to lease entire local exchange services at wholesale prices. See Telecommunications Act of 1996 §101(a), adding 47 U.S.C. §§ 251(c)(3), 251(c)(4).

A second influence reducing or altogether precluding the stranded cost problem in this industry is the fact that most modern telephone plant is highly adaptable to multiple uses. Because of technological advances in switching, transmission, and data processing, a system originally designed to transmit voice messages can now also send pictures (faxes) and computer files (e-mail), and soon will be able to transmit cable television and remote video signals. Hence, if and when the incumbent LECs' share of the local exchange market declines because of facilities-based competition, demand for the system resulting from new technological uses and services may have grown to the point where existing plant is still fully or largely deployed. In sharp contrast, a nuclear generating plant has only one economical use -- the generation of electricity. If new sources of power like gas turbines emerge that can produce the same power at much lower prices, then the introduction of competition is likely to result in severe redundancy for the ill-fated owners of nuclear plants.

A third and very critical consideration -- the presence of a quid pro quo for loss of LEC earnings -- derives from the overall structure of Telecommunications Act. It is artificial and inappropriate to consider the potential loss of local market share by incumbent LECs without weighing this against the other momentous changes affecting the LECs that are made possible by the Act. In particular, the opening of markets required by the Telecommunications Act is a two-way street. Incumbent LECs must give up their monopoly positions in the market for local exchange service, but in return they can expect to gain access to interexchange (long distance) markets.[53] The

[53] Telecommunications Act of 1996 § 101(a), adding 47 U.S.C. § 271.

additional revenues from long distance services must be regarded as an offset against the local revenue losses that may occur. The LECs obviously regarded the prospect of tapping into this new source of revenue as substantial compensation for the loss of their local monopolies, since they pushed hard for the adoption of the Telecommunications Act for this very reason.[54]

Traditionally, analysis of confiscation claims has been separated along jurisdictional lines, with the adequacy of revenues from FCC-regulated activities being considered separately from the adequacy of revenues from activities regulated by the states.[55] This may suggest, for example, that the state PUCs (which have traditionally regulated local exchange service) should not consider offsetting revenues from the interexchange market (traditionally regulated by the FCC) in determining whether the introduction of competition in the local market is a taking. But a fundamental purpose of the Telecommunications Act is to tear down these artificial jurisdictional lines and create a single electronic communications market. Henceforth, therefore, proper constitutional analysis should look to the total revenues a LEC derives from all telecommunications services that are causally attributable to its fixed plant investment. If the same statute that takes away local revenues with one hand returns new interstate revenues with the other, it would be artificial in the extreme to slice up the same asset (the LEC's network) into different jurisdictional components and declare a taking in the half that is losing revenue while ignoring the other side of the equation. And even if courts conclude that the old jurisdictional distinctions should be retained in assessing confiscation claims, surely they should be disregarded in deciding whether forward-

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[54] See Hazlett, supra n. 4.

[55] See Smith v. Illinois Bell, 282 U.S. 133 (1930).

looking pricing is unfair to LEC investors.

Finally, the Telecommunications Act also contains important provisions designed to ensure that incumbency burdens do not fall exclusively on the shoulders of the incumbent LECs. The principal incumbency burden is the actual or perceived requirement that the incumbent LEC serve as the carrier of last resort for all potential customers. This could mean in some cases providing service to rural and residential customers at rates that are not remunerative. Here, the Telecommunications Act requires that all cross subsidies designed to maintain universal service be made explicit,[56] and requires that "[a]ll providers of telecommunications services should make an equitable and nondiscriminatory contribution to the preservation and advancement of universal service."[57] The FCC is required to adopt rules carrying out these provisions by the summer of 1997. The revenues that LECs will receive from these charges must surely also be taken into account before deciding whether any losses associated with stranded plant violate the Takings Clause or are a breach of the regulatory compact.

In sum, there are at least five reasons why the introduction of local competition under the Telecommunications Act is likely to present a relatively small stranded plant problem, at least relative to what might happen if unrestricted retail wheeling was introduced into the electric industry. First, competition in the early years is likely to be based on leasing rather than building duplicate systems, and if lease prices are compensatory, this means there will be no stranded plant. Second,

[56]Telecommunications Act of 1996 §101(a), adding 47 U.S.C. § 254(e).

[57] Telecommunications Act of 1996 §101(a), adding 47 U.S.C. § 254(b)(4).

technological change renders some telecommunications plant and equipment obsolete at a rate more rapid than that in many industries. Third, local telephone plant has proven to be highly adaptable to multiple uses, suggesting that a loss in traditional local telephone service can be offset by the growth in demand for alternative services. Fourth, the prospect of entry into the long distance market offers a huge new source of revenue that must be attributed in part to the local plant of the LECs, and that should be interpreted as a quid pro quo for loss of local-service revenues. And finally, the Telecommunications Act provides another offset by requiring that the FCC adopt competitively neutral universal service fees to cover the costs of incumbency burdens.

It is too early to say that these features of the local competition scheme will produce no stranded investment. Indeed, that is part of the point: the effect of each of these influences cannot be assessed until the Act is fully carried out. At the very least, however, it is inappropriate to assume that these industry and statutory influences are not present, and that the stranded plant problem will be so severe that a taking or breach of contract will inevitably occur unless access prices are adjusted to permit full recovery of all historical costs. Again, it appears that the wiser course is to permit forward-looking pricing to go into effect, and to put off as premature any inquiry into the need for additional compensation.

III. On the Economics of Public-Interest Pricing: the Key Role of the Competitive Market Model.

We also saw in Part I that the selection of legal remedies may turn on whether the regulatory action that produces these effects is considered to serve broad and important public purposes. Hence it is also important to review briefly why the features of the pricing rules endorsed by most economists and adopted by the FCC are essential to achievement of the objectives of the Act.

The Telecommunications Act is designed to do nothing less than open all electronic communications markets to effective competition in order to serve the public interest. It should stimulate technological innovation, improve the convenience and quality of service, and result in reductions in real prices. The simplest way to attain this goal would be to introduce competition throughout the industry at once. But that is not possible, at least in the short run, given the high cost of replication of the LECs' critical bottleneck facilities such as copper wire local loops. Consequently, it is necessary to substitute regulation for competition in the pricing of these bottleneck facilities until effective competition is securely established. Only regulation based on competitive-market behavior can smooth the transition to the competitive regime that is the basic goal of the Telecommunications Act.

A. The role of forward-looking costs and monopoly profits.

For regulation to provide consumers the benefits that competition would offer if effective competition were feasible, the regulatory rules must replicate the behavior one finds in competitive markets. Prices that incorporate supercompetitive or monopoly profits constitute a clear violation of the rules of behavior of the competitive market model. Such high prices are a standing invitation to rivals to undercut the incumbent and take its customers away. Thus, any pricing rule that is consistent with the competitive model must, at a minimum, rule out supercompetitive prices and monopoly profits.

Competitive market forces also require firms to base their prices on forward-looking costs -- the current and future costs that the firm will incur in providing goods and services to consumers. If prices do not cover those costs, they clearly cannot be compensatory. And since competition also prevents cross subsidies, the firm whose prices fail to cover forward-looking costs can expect financial difficulties. On the other hand, if the firm adopts prices far above its forward-looking costs, that will permit rivals to take its customers away. Therefore, competitive markets force firms to adapt their prices to forward-looking costs. Such pricing behavior is required for economic efficiency because only prices based on forward-looking costs send the right signals to purchasers, requiring them to pay for their purchases an amount corresponding to the costs that their purchases actually cause.

For similar reasons, the competitive market model requires that the firm's assets be valued for pricing purposes on the basis of the costs of replicating those assets today (their replacement cost), not the cost that was once incurred in constructing them, as recorded in the books of the LEC. That is how assets are valued in any truly competitive market, because any firm that seeks to collect a price more than sufficient to recoup this amount makes itself vulnerable to the competition of a new and efficient rival that can offer the product at a lower price. Thus, the pertinent costs of assets are also forward-looking, not historical.

Prices based on historical cost are also a source of economic inefficiency, and are therefore harmful to the public. Such prices will, for example, distort entry decisions by making it possible for inefficient entrants to succeed if the incumbent's final-product prices are inflated by historical asset-cost figures that exceed replacement costs. Alternatively, if historical costs happen to fall short of current replacement costs, they will distort the process by preventing the entry of efficient potential competitors.

For all these reasons, it is clear that the competitive model, as implicit in the goals of the Telecommunications Act, requires that prices be based on forward-looking costs, and precludes supercompetitive prices and monopoly profits. The economic analysis that calls for the use of forward-looking costs is consistent with the language of the Telecommunications Act governing access-pricing standards,[58] and has been endorsed by the FCC and by most of the state PUCs that have faced the issue. It should carry a strong presumption of validity in the courts that will be asked to review the regulator's pricing decisions.

B. Misunderstandings the Sidak-Spulber Discussion Can Produce.

Sidak and Spulber undoubtedly accept the conclusions that in competitive markets the costs relevant for pricing are forward-looking, that the pertinent asset costs in such markets are their replacement costs, and that the competitive market model also rules out supercompetitive prices and monopoly profits. However, in their discussion of the economics of access-pricing rules, they emphasize two additional criteria. First, they stress that economic efficiency requires access prices to be competitively neutral, in the sense that they must entail the same price for access to unbundled

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[58] Telecommunications Act of 1996, § 101, adding 47 U.S.C. § 252(d)(1).

local network elements both to incumbents and new entrants. Second, they urge that access prices not abrogate regulatory commitments that served to elicit funding by investors in the past, because abrogation can lead to difficulties for the firm in raising needed capital in the future.

Most economists, including those who have appeared as witnesses on both sides in contested proceedings involving competitive access, would endorse these additional criteria in principle. Yet the Sidak-Spulber discussion can lead to misunderstanding because of three positions they appear to take. Starting with a legitimate concern with protection of the expectations of investors, they appear to suggest (1) that competitive neutrality requires that access prices include a substantial contribution to the costs imposed on the LECs by their universal-service obligations; (2) that the regulatory contract requires investors to recoup the historical cost of the assets in which they invested, even if this exceeds the current replacement cost of those assets; and (3) that, even if the regulated firm had previously been earning monopoly profits, deprivation of those profits without full compensation constitutes an impermissible taking. The modifications of the pricing rules apparently required by these observations clearly conflict with the requirements of the competitive-market model for regulation and can lead to substantial distortions and inefficiencies.

1. Competitive Neutrality and Universal Service. The first additional requirement stressed by Sidak and Spulber is that access prices must be competitively neutral, in the sense that they should impose no differential handicap on either incumbent or entrant. A special pricing formula for achievement of this objective, called the efficient component-pricing rule (ECPR) or